

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 – 6 (cancelled)

Claim 7 (currently amended): ~~The acoustic device of claim 1;~~ An acoustic energy device comprising:

a conduit with an inlet orifice, an outlet orifice, and an expanded flow area between said inlet orifice and said outlet orifice, said conduit having a longitudinal axis that extends from said inlet orifice to said outlet orifice, wherein said inlet orifice is narrower in diameter than said expanded flow area and a flow of said process liquid through said inlet orifice into said expanded flow area results in a turbulent flow;

at least two oscillatory members assembled within said expanded flow area and spaced a distance apart from one another, a flowpath extending through said conduit from said inlet orifice to said outlet orifice and between said at least two oscillatory members;

a flow partition disposed between said at least two oscillatory members, said flow partition subdividing said flowpath into a first flowpath between said flow partition and a first oscillatory member and second flowpath between said flow partition and a second oscillatory member;

wherein said oscillatory members oscillate in said turbulent flow of said process liquid, generating acoustic energy that emanates in a direction transverse to said flowpath, thereby exposing a total volume of said process liquid to said acoustic energy.

~~wherein said plurality of oscillatory members includes an oscillatory circuit and a pair of piezoelectric members electrically connected to said oscillatory circuit, said pair of piezoelectric members including a first piezoelectric member and a second piezoelectric member, wherein said flow of said process liquid through said expanded flow area causes said piezoelectric members to vibrate and produce acoustic waves, and wherein said piezoelectric members are arranged such that said acoustic waves emanate from said piezoelectric members in a direction transverse to said longitudinal axis.~~

Claim 8 – 10 (cancelled)

Claim 11 (currently amended): The acoustic device of claim 7 further comprising multiple pairs of said piezoelectric oscillatory members, said pairs arranged within said expanded flow area in series, one behind another along said flowpath.

Claim 12 (previously presented): The acoustic device of claim 7, wherein said acoustic energy working on said process liquid sanitizes said process liquid.

Claim 13 (previously presented): The acoustic device of claim 7, wherein said acoustic energy working on said process liquid homogenizes said process liquid.

Claim 14 (currently amended): A method of effecting sonochemical processes in a

process fluid, said method comprising the steps of:

(a) providing turbulent flow of a process liquid through a conduit having an inlet, and outlet, and an expanded flow area between said inlet and said outlet, a flowpath for said process liquid extending through said expanded flow area;

(b) providing a plurality of oscillatory members in said expanded flow area, said oscillatory members being that-are-spaced a distance apart from each other and are prone to vibration;

(b) creating turbulent flow on a process fluid;

(c) providing a flow partition between said oscillatory members, so as to divide said flowpath into two or more subdivided flowpaths, each subdivided flowpath being between one of said oscillatory members and said flow partition; and

(d) forcing said turbulently flowing process fluid to flow past said oscillatory members, said turbulently flowing process fluid causing said oscillatory members means to vibrate, thereby producing acoustic energy, wherein said acoustic energy is passed back and forth between said oscillatory members and said flow partition in a direction transverse to said two or more subdivided flowpaths, thereby increasing said turbulent turbulence in said turbulent flow and causing alternating expansion and contraction in said distance between said oscillatory members and increasing exerting said shear forces from shear, compression, and rarefaction resulting from said turbulent flow on a total volume of said process fluid. and said compression forces working on said process liquid; and

(d) forcing said process fluid and said acoustic energy through a flow path that exposes a total volume of said process fluid to said acoustic energy and using said acoustic energy to do work on said process fluid.

Claim 15 (new): The method of claim 14, wherein said oscillatory members are piezoelectric members, said step of providing a plurality of oscillatory members further comprising the step of:

(b1) providing an oscillatory circuit that includes a pulse generator, wherein at least one of said piezoelectric members is connected to said pulse generator.

Claim 16 (new): The method of 15, said step of providing a plurality of oscillatory members further comprising the steps of:

(b2) providing a tank circuit, wherein said piezoelectric members are connected to said tank circuit; and

(b3) using said tank circuit to fly-wheel energy between said piezoelectric members.

Claim 17 (new): The method of claim 14, wherein said step of providing a plurality of oscillatory members further comprises the steps of:

(b4) providing multiple pairs of oscillatory members and connecting said oscillatory members in series.

Claim 18 (new): The acoustic device of claim 7 further comprising an oscillatory circuit that includes a pulse generator, wherein piezoelectric members serve as said oscillatory members and wherein at least one piezoelectric member is electrically connected to said pulse generator.

Claim 19 (new): The acoustic device of claim 18 further comprising a tank circuit, wherein said piezoelectric members are connected to said tank circuit and wherein said tank circuit promotes fly-wheeling energy between said piezoelectric members.